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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,204	11/21/2001	Ken Kuwabara	0023-0157	3547

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HARRITY SNYDER, LLP  
11350 Random Hills Road  
SUITE 600  
FAIRFAX, VA 22030

EXAMINER
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LEE, ANDREW CHUNG CHEUNG

ART UNIT	PAPER NUMBER
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2616

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07/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

09/990,204

Applicant(s)

KUWABARA ET AL.

Examiner

Andrew C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-12 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-12, 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Claims 10, 11, 12, 17, 18, 19, 20 are pending.
2. Claims 1 – 9, 13 – 16 canceled.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 11, 12, 17, 18, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (US 7023846 B1) in view of Erimli et al. (US 7079533 B1).

Regarding claim 10, Andersson et al. disclose a method of configuring a networking device ("label switching router" correlates to a networking device; column 3, lines 65 – 67, column 4, lines 1 – 4), comprising: generating a first forwarding table ("element 240 incoming forwarding table and based upon the network layer addressing information in the packet, and adds the new label to its incoming forwarding table" correlates to generating a first forwarding table: Fig. 2, column 6, lines 59 – 67, column 7, lines 1 – 2); generating a second forwarding table ("element 260 outgoing forwarding table, and allocates a new label, and adds the new label to its outgoing

forwarding table” correlates to generating a second forwarding table; Fig. 2, column 5, lines 22 – 27); Andersson et al. also implicitly suggest programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions (“incoming packet processing logic and label detection logic” correlates to programming a filter to perform a lookup operation in the first forwarding table; column 1, lines 56 – 66, column 4, lines 43 – 56, column 10, lines 22 – 49; Fig. 2, Fig. 11); programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions (column 4, lines 60 – 65).

Andersson et al. do not explicitly teach programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions; programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions.

Erimli et al. teach programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions (“programming the port filter memory (or, more specifically, the lookup table within the port filter memory,... the port filter may be programmed to compare any portion of the data frame.. when there is a match” correlates to programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions

of a first set of conditions; Fig. 4, column 7, lines 61 – 67, column 8, lines 1 – 59); programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions (Fig. 4, column 7, lines 61 – 67, column 9, lines 4 – 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Andersson et al. to include programming a filter to perform a lookup operation in the first forwarding table if a first field value of a received packet meets one or more conditions of a first set of conditions; programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions as taught by Erimli et al. in order to eliminate the need for complex and time-consuming lookups for these packets, and hence improves the efficiency and throughput of a network switch (as suggested by Erimli et al., column 1, lines 46 – 49).

Regarding claim 11, Andersson et al. disclose the limitation of the method of claimed wherein the step of generating a first forwarding table comprises the substep of generating a first forwarding table containing an entry corresponding to a first label switched path (column 4, lines 50 – 60; column 6, lines 61 – 67, column 7, lines 1 – 2; Fig. 2, Fig. 3A, referenced the packet includes label switching information that is associated with an LSP mapped in the incoming forwarding table).

Regarding claim 12, Andersson et al. disclose the limitation of the method of claimed wherein the step of generating a second forwarding table comprises the

substep of generating a second forwarding table (column 4, lines 60 – 65, column 5, lines 22 – 27; Fig. 2, Fig. 3B, referenced determines whether the packet is associated with an LSP mapped in the outgoing forwarding table).

Regarding claim 17, Andersson et al. disclose the limitation of a networking device (column 3, lines 65 – 67, column 4, lines 1 – 4; referenced “label switching router” as networking device); a memory for storing a first forwarding table and a second forwarding table (column 12, lines 1 – 8; Fig. 2, element 240 incoming forwarding table as first forwarding table, element 260 outgoing forwarding table as second forwarding table); a filter programmed to initiate a lookup operation in the first forwarding table if a first field value of a header contained in a received packet meets a first set of conditions (column 4, lines 43 – 56, column 10, lines 22 – 49; Fig. 11, referenced “incoming packet processing logic and label detection logic” as programming a filter to perform a lookup operation in the first forwarding table) and to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions (column 4, lines 60 – 65).

Regarding claim 18, Andersson et al. disclose the limitation of the networking device of claimed wherein the first forwarding table contains an entry corresponding to a first label switched path (column 7, lines 10 – 17; referenced “the logic set up the LSP by adding the new label to the incoming forwarding table”).

Regarding claim 19, Andersson et al. disclose the limitation of the networking device of claimed wherein the second forwarding table contains an entry corresponding to a second label switched path (column 5, lines 32 – 42; Fig. 2, Fig. 3A, referenced “the logic allocates a new label for the new LSP, and sets up the new LSP by adding the new label to the outgoing forwarding table).

Regarding claim 20, Andersson et al. disclose the limitation of the networking device (column 3, lines 65 – 67, column 4, lines 1 – 4; referenced “label switching router” as networking device); Andersson et al. also disclose ingress interface for receiving packet (column 4, lines 43 – 44; Fig 2, referenced “element 210 incoming interface” as ingress interface); egress interface for transmitting packet (column 4, lines 47 – 48; referenced “element 230, outgoing interface” as egress interface); wherein each of the lookup operations results in an identification of an egress interface from which the received packet is to be transmitted (column 4, lines 47 – 65).

Andersson et al. do not teach explicitly a plurality of ingress interfaces for receiving packets; a plurality of egress of egress interfaces for transmitting packets.

Erimli et al., teach a plurality of ingress interfaces for receiving packets (“receive modules may include input ports” correlates to a plurality of ingress interfaces for receiving packets; Fig. 2, column 4, lines 49 – 44); a plurality of egress interfaces for transmitting packets (“transmit modules may include output ports” correlates to a

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plurality of egress interfaces for transmitting packets; Fig. 2, column 4, lines 66 – 67, column 5, lines 1 – 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Andersson et al. to include a plurality of ingress interfaces for receiving packets; a plurality of egress of egress interfaces for transmitting packets as taught by Erimli et al. in order to eliminate the need for complex and time-consuming lookups for these packets, and hence improves the efficiency and throughput of a network switch (as suggested by Erimli et al., column 1, lines 46 – 49).

### ***Response to Arguments***

5. Applicant's arguments filed on 5/2/2007 with respect to claims 10, 11, 12, 17, 18, 19, 20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Carpini et al. (US 7126907 B2) disclose a communication network is provided having source and destination switching routers connected by two different communication paths. A primary label switched path is established on one of the communication paths and a secondary label switched path is established on the other label switched path.



- Hama (US 7072346 B2) disclose in network for forming a VPN on a shared network and communicating via the VPN, a core network of the VPN is formed by an MPLS network, access networks for accessing the core network are formed by VLANs, and edge routers are provided between the MPLS network and VLANs for interfacing the MPLS network and the VLANs.
- So et al. (US 7012919 B1) disclose an invention is provided for affording an aggregate micro-flow having intelligent load balancing. Initially, a set of label switched paths (LSPs) is defined for a network domain.
- Jagannath et al. (US 7095740 B1) disclose a method and apparatus for directing messages through a network wherein multiple tables for directing messages through the network are maintained and provided. Each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.
- Rygh (US 6778539 B1) discloses multilevel table routing.
- Chin et al. (5617421) disclose extended domain computer network using standard links.
- Gobuyan et al. (5917821) disclose look-up engine for packet-based network.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-

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3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan D. Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C. Lee/::<7/11/2007>

Robert W. Wilson

Robert W. Wilson  
7/20/07